REMARKS

Claims 1-3 and 5-21 are all of the claims presently pending in the application. Claim 1 has been merely editorially amended. The claims have not been substantively amended to more particularly define the claimed invention. Claims 5-21 have been added to claim additional features of the invention and to provide more varied protection for the claimed invention.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1-3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida (JP 2003-021287) in view of Attwood (U.S. Patent No. 4,911,406).

This rejection is respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

The claimed invention (e.g., as defined by exemplary claim 1) is directed to a piping connector.

The piping connector includes a socket having a tubular shape attached to an end of a first pipe to be connected, a plug having a tubular shape attached to an end of a second pipe, a seal ring arranged at an inner periphery of the socket for sealing an interval between the inner periphery of the socket and an outer periphery of the plug in an airtight manner, and a hold ring fixedly attached to the inner periphery of the socket for restricting the seal ring from moving in an axial direction. The first pipe and the second pipe are connected by inserting the

plug to fit to the socket. Furthermore, the hold ring includes a groove, having a ring-like shape for constituting a burr storing space, at an outer periphery of the holding ring, and the holding ring is welded to the inner periphery of the socket by ultrasonic welding.

In conventional pipe connectors, which attach a hold ring to a socket by fitting or press-fitting, when a fluid at high temperature and high pressure is made to flow inside of the connected pipe, there is a concern that the hold ring may become detached by loosening of the fitting or press-fitting. Furthermore, during welding, it is a concern that burrs may be brought into contact with the seal ring, which damages the seal ring.

The claimed invention of exemplary claim 1, on the other hand, provides a piping connector including a holding ring that includes a groove, having a ring-like shape for constituting a burr storing space, at an outer periphery of the holding ring (e.g., see Application at page 3, lines 8-23). The claimed invention, including this feature, is able to be fixedly, and solidly attached to an inner periphery of a socket without damaging a seal ring (e.g., see Application at page 3, lines 4-7).

Furthermore, when a groove is formed in an outer periphery of the hold ring, burrs produced when the hold ring is subjected to ultrasonic welding are stored inside of the groove and are prevented from flowing out to an outer portion thereof. Accordingly, burrs can be prevented from flowing out to the side of the seal ring to damage the seal (e.g., see Application at page 3, line 24 through page 4, line 9).

II. THE PRIOR ART REFERENCE

The Examiner alleges that Attwood would have been combined with Yoshida to teach the claimed invention of claims 1-3. Applicant submits, however, that, even if combined, the alleged combination of references would not teach or suggest each and every feature of the

claimed invention.

That is, neither Attwood nor Yoshida, nor any combination thereof, teaches or suggests "*wherein the hold ring includes a groove, having a ring-like shape for constituting a burr storing space, at an outer periphery of the holding ring, the holding ring being welded to the inner periphery of the socket by ultrasonic welding*", as recited in exemplary claim 1.

The Examiner alleges that Yoshida teaches a hold ring including a groove in a ring-like shape. The Examiner attempts to rely on Figure 7 of Yoshida to support this allegation. The Examiner, however, is clearly incorrect.

That is, nowhere in this figure (nor anywhere else for that matter) does Yoshida teach or suggest that the hold ring includes a groove, having a ring-like shape for constituting a burr storing space, at an outer periphery of the holding ring. Indeed, Yoshida does not even mention nor does Figure 7 show a hold ring including a groove formed therein, let alone teach or suggest a hold ring including all of the features recited in the claimed invention.

The Examiner alleges that Yoshida teaches a seal ring 36 (note that Yoshida teaches that feature 36 is actually a "guide slot" and not a seal ring as alleged by the Examiner) and a hold ring formed adjacent to the seal ring (see Office Action dated January 30, 2007 at page 3). As indicated above, the Examiner attempts to rely on Figure 7 of Yoshida to support his allegations.

The Examiner further alleges that "the hold ring includes a groove (Figure 7) in a ring-like shape" (see Office Action dated January 30, 2007 at page 3). However, the Examiner does not point out which feature of Yoshida he is relying on to support this allegation.

Applicant submits that Yoshida does not provide support for the Examiner's erroneous allegations.

That is, while it may appear from Figure 7 that two structures may be formed between

the socket 31 and the tubing 20, Yoshida does not indicate what these features are. Indeed, the description of Yoshida does not even refer to these features, let alone teach or suggest that these features are a hold ring or a seal ring, as alleged by the Examiner. The Examiner is clearly reading limitations into Yoshida that are not supported, let alone taught or suggested, by the disclosure of Yoshida.

Furthermore, even assuming, *arguendo*, that one of the unidentified structures located between the socket 31 and the tubing 20 teaches or suggests a hold ring, as alleged by the Examiner, Yoshida would still not teach or suggest that the hold ring includes a groove, having a ring-like shape for constituting a burr storing space, at an outer periphery of the holding ring. Indeed, nowhere does Yoshida teach or suggest a groove formed in the "hold ring", let alone teach or suggest that the groove is formed in an outer periphery of the hold ring.

This feature of the claimed invention is clearly not illustrated in Figure 7, as alleged by the Examiner, and is furthermore not even mentioned, let alone taught or suggested, in the disclosure of Yoshida.

If the Examiner wishes to maintain a rejection based on Yoshida, Applicant respectfully requests the Examiner to specifically point out which feature of Yoshida he is relying upon to teach the groove formed at an outer periphery of the hold ring.

Moreover, Applicant submits that Attwood fails to make up the deficiencies of Yoshida.

That is, nowhere does Attwood teach or suggest that a hold ring including a groove, having a ring-like shape for constituting a burr storing space, at an outer periphery of the holding ring. The Examiner does not even allege that Attwood teaches or suggests this feature of the claimed invention. Indeed, the Examiner merely alleges that Attwood teaches that it is

known to weld a hold ring or bushing, to the inner periphery of a socket.

Thus, Attwood fails to make up the deficiencies of Yoshida.

Moreover, with respect to dependent claim 2, the Examiner alleges "it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the portion having radius of curvature of 0.2-0.5mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art" (see Office Action dated January 30, 2007 at page 4). The Examiner's statement, however, is not accurate.

That is, while the M.P.E.P. indicates that discovering the optimum or workable ranges involves only routine skill in the art, the Examiner has failed to consider that the M.P.E.P. further states that "[a] particular parameter must first be recognized as a result-effective variable, i.e., **a variable which achieves a recognized result**, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation" (MPEP at §2144.05) (emphasis added). The Examiner has failed to even attempt to establish that the claimed radius of curvature is a result-effective variable. Indeed, the Examiner has failed to even recognize this standard that is clearly set forth in the M.P.E.P.

Applicant submits that the cited references do not suggest any result as being affected by the radius of curvature of the curve shaped portion of the hold ring, let alone for optimizing a radius of curvature of the curve shaped portion of the hold ring for providing the desired results on the claimed invention.

Therefore, with respect to claim 2, the Examiner has clearly failed to establish a *prima facie* case of obviousness.

Therefore, Applicant submits that, even if combined, the alleged combination of references would not teach or suggest each and every feature of the claimed invention.

Therefore, the Examiner is respectfully requested to reconsider and withdraw this rejection.

III. NEW CLAIMS

New claims 5-21 have been added to claim additional features of the claimed invention and to provide more varied protection for the claimed invention. These claims are independently patentable because of the novel and non-obvious features recited therein.

Applicant submits that claims 5-21 are patentable over any combination of the cited prior art references at least based on analogous reasons to those set forth above with respect to claims 1-3.

IV. FORMAL MATTERS AND CONCLUSION

With respect to the Examiner's objections to the Specification, Abstract and claims, Applicant submits that the claims, the Specification and the Abstract have been amended in a manner believed fully responsive to the Examiner's objections. Accordingly, the Examiner is respectfully requested to reconsider and withdraw these objections.

In view of the foregoing, Applicant submits that claims 1-3 and 5-21, all of the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Assignee's Deposit Account No. 50-0510.

Respectfully Submitted,

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